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PATENT  
Attorney Docket No. 049128-5018

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of:	)	Confirmation No. 9570
	)	
Hyeon Ho SON, <i>et al.</i>	)	
	)	
Application No.: 09/893,676	)	Group Art Unit: 2629
	)	
Filed: June 29, 2001	)	Examiner: J. Nguyen
	)	
For: METHOD OF DRIVING LIQUID CRYSTAL	)	
DISPLAY	)	
	)	

Commissioner for Patents  
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**SUPPLEMENTAL REPLY BRIEF UNDER 37 C.F.R. §41.41**

This Supplemental Reply Brief is in response to the Supplemental Examiner's Answer dated January 16, 2007, the period response extending through March 16, 2007. Hence, Appellants submit that this Supplemental Reply Brief has been filed timely for consideration.

**Summary of the History on Appeal**

Appellants filed an Appeal Brief on June 5, 2006. In response, an Examiner's Answer was issued on August 25, 2006. Thereafter, a Notice of Non-Compliant Appeal Brief was issued on October 2, 2006 indicating that the Appeal Brief must identify which claims are appealed and the claims appendix should only list claims on appeal. In response, Appellants filed an amended Appeal Brief on October 10, 2006 correcting the indicated informalities. Furthermore, a Reply Brief in response to the original Examiner's Answer was filed on October 24, 2006.

The outstanding Supplemental Examiner's Answer was issued in response to the amended Appeal Brief filed on October 10, 2006. In the Supplemental Examiner's Answer, the Office confirms that the after final amendment filed on January 30, 2006 has been entered and that the grounds of rejection to be reviewed on appeal are correct. However, as no new arguments have been made in the Supplemental Examiner's Answer, Appellants reassert the arguments presented in the Reply Brief filed October 24, 2006, reproduced below for convenience.

**Appellants' Response**

Appellants note that the "grounds of rejection" set forth in the Examiner's Answer issued on August 25, 2006 are not that of those advanced in the final Office Action. In particular, the following allegation was never set forth in the final Office Action issued on November 1, 2005:

applying common voltage (common voltage value between Vcom high and Vcom low from one subframe to a next subframe) to the plurality of liquid crystal cells after applying the one of the Vcom high and the Vcom low (col. 10, line 66 to col. 11, line 22). (ExAns: page 3, section 2, paragraph 4.)

Moreover, the rejection was changed in the Examiner's Answer from the final Office Action in the following manner:

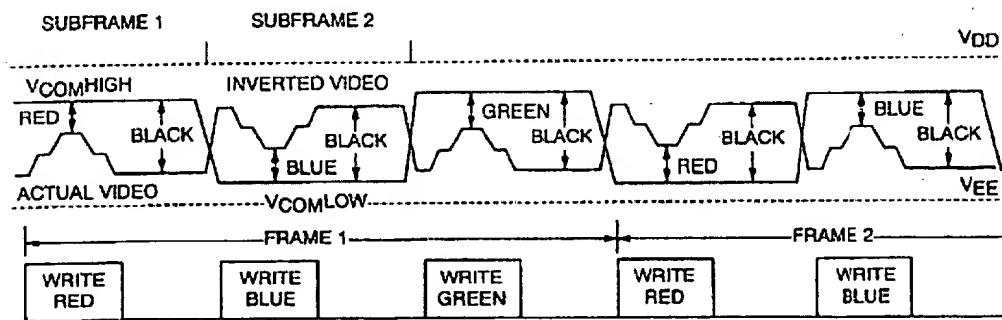
Zavracky differs from claims 1 and 13 in that he does not specifically teaches [sic] applying the ~~reference~~ common voltage value between Vcom high and Vcom low is a reference common voltage to the plurality of liquid crystal cells after applying the one of the high level common voltage and low level common voltage. (ExAns: p. 4, ll. 1-2.)

Appellants note that the after-final amendment only corrected typographical errors. Hence, the added grounds of rejection were not warranted. Nevertheless, in an effort to advance the appeal process, Appellants address the added grounds of rejection in addition to the remarks made in the Examiner's Answer.

Appellants assert Zavracky et al. and Sugawara et al. both fail to teach or even suggest all the features of the independent claims 1 and 13. It appears that the added grounds of rejection indicated above is an attempt to improperly retract the admissions made in prior Office Actions. (See, e.g., FOA(11/1/05): p. 2, sec. 3, para. 5; OA (3/22/05): p. 2, sec. 3, para. 3.) By re-crafting the prior admissions in the manner presented in the Examiner's Answer, the Office is attempting now to justify the new allegation the "reference common voltage" recited at least in independent claims 1 and 13 as "any Vcom value [that] differs from Vcom high and Vcom low." (ExAns: p. 6, ll.12-13.) Appellants note that no such allegations were made in any of the Office Actions in the record. While Appellants assert that these statements are improper and should not be raised in an Examiner's Answer, Appellants assert that even if a "reference common voltage" can be any Vcom value, *in arguendo*, Zavracky et al. and Sugawara et al., whether taken individually

or in combination, still fail to teach or suggest every feature of at least independent claims 1 and 13.

As explained in the prior responses and in the Appellants' Brief, Zavracky et al. and Sugawara et al. both fail to teach at least the step of "applying a reference common voltage to the plurality of liquid crystal cells after applying the one of the high-level common voltage and the low-level common voltage" as recited, in part, in claim 1 and the step of "applying a reference common voltage to the plurality of the liquid crystal cells after the allowing of the liquid crystal cells to respond" as recited, in part, in claim 13. As exemplified in FIG. 12B of Zavracky et al. as reproduced in part below, Zavracky et al. only teaches applying a Vcom HIGH and Vcom LOW in a uniformly alternating fashion for each color.

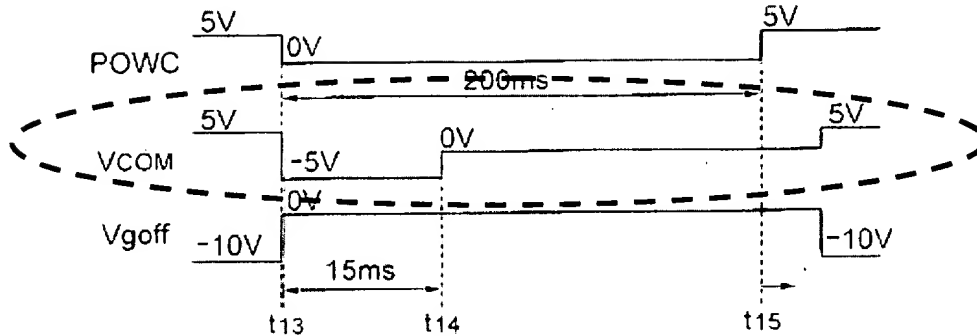


Zavracky et al. is silent as to applying any other voltage after the Vcom HIGH and Vcom LOW signal. Sugawara et al. does not cure these deficiencies.

As explained in prior responses and the Appellants' Brief, the "zero" value of the Vcom line, as shown in FIG. 9 of Sugawara et al. reproduced below for convenience, is not a "reference common voltage." Rather, it is an *absence* of voltage during the switching between display

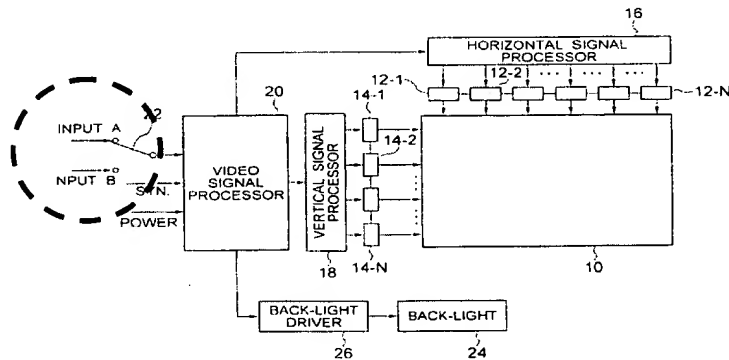
modes.

FIG. 9



In other words, the “zero” value occurs on the Vcom line when the switch 22 between “Input A” and “Input B” to select the input source to the video signal processor 20 changes position as shown in FIG. 5 of Sugawara et al., reproduced below.

FIG. 5



While this absence of voltage (i.e.,  $V_{com}=0$ ) is not a “reference common voltage,” even if, *in arguendo*, any voltage that is not a high common voltage or a low common voltage is construed as a reference voltage as alleged in the Examiner’s Answer, Sugawara et al. fails to teach or even suggest that the  $V_{com}=0$  is applied “after applying the one of the high-level common voltage and

the low-level common voltage” (claim 1) or “after the allowing of the liquid crystal cells to respond” (claim 13).

As explained above and in previous responses,  $V_{com}=0$  in Sugawara et al. occurs when the display mode is switched from one mode to another (e.g., SXGA to VGA). Sugawara et al. is silent as to when the display mode is switched. FIG. 9 of Sugawara et al., at best, shows that the application of  $V_{com}=-5V$  was *interrupted* when the display mode switched (*i.e.*,  $V_{com}=0$  only indicates that the  $\pm 5V_{com}$  becomes 0V when the switch changes position). Sugawara et al. fails to teach or even suggest that the  $V_{com}=0$  is applied *after* applying the one of the high-level common voltage and the low-level common voltage” (claim 1) or *after* the allowing of the liquid crystal cells to respond (claim 13).

In addition, Sugawara et al. not only fails to teach or suggest applying a reference common voltage to a plurality of liquid crystal cells, Sugawara et al. fails to teach or suggest applying the signals *during one display frame*, as recited in both independent claims 1 and 13. As stated previously, Sugawara et al. is based on the *time for switching between display modes* as indicated by the POWC signal from the judgment section 60. (See col. 7, ll. 20-24.) In other words, the timing of the application of the signals shown in FIG. 9 of Sugawara et al. is based on when the POWC signal has been detected, *not* based on the time periods related to *one display frame*, as recited in the claims of the present application.

Therefore, even if the  $V_{com}=0V$  state shown in Sugawara et al. is a reference common voltage, *in arguendo*, there is no teaching in Sugawara et al. that would motivate one with ordinary skill in the art at the time of the invention to have applied the signals represented in FIG.

9 of Sugawara et al. during *one display frame* of Zavracky et al. There is no relation between the method of displaying pictures in one display frame as disclosed in Zavracky et al. with that of the control signals for switching between display modes as disclosed in Sugawara et al.

Accordingly, Appellants assert that there is no motivation for one of ordinary skill in the art to modify the driving method of displaying an image of Zavracky et al. with control signals for switching over from one display mode to another as disclosed in FIG. 9 of Sugawara et al. in *one display frame* of Zavracky et al. when both references are silent as to such a feature.

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**CONCLUSION**

In view of the foregoing, Appellants respectfully request the reversal of the rejections asserted in the Final Office Action and request allowance of all of the pending claims. If there are any fees due in connection with the filing of this Reply Brief, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. §1.136 not accounted for above, such an extension is requested and the fee should also be charged to our deposit account.

Respectfully submitted,

**MORGAN, LEWIS & BOCKIUS LLP**

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By:   
Kyle S. Choi  
Reg. No. 41,480

**Customer No.: 009626**  
MORGAN, LEWIS & BOCKIUS LLP  
1111 Pennsylvania Avenue, N.W.  
Washington, D.C. 20004  
Telephone: 202.739.3000  
Facsimile: 202.739.3001